

ACCURACY OF AERIAL SURVEYS FOR WINTERING BALD EAGLES

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The accuracy of aerial surveys for estimating wildlife populations has long been questioned because biases associated with them may lead to undercounting. Due to plumage differences between age classes in bald eagles (*Haliaeetus leucocephalus*), adults are easier to see from the air than are immatures. We conducted bi-monthly aerial surveys of a wintering population of bald eagles in the Boise River drainage in southern Idaho during the winters of 1990–1991 and 1991–1992. We assessed the accuracy of aerial results by ground-truthing with counts from a vehicle, and compared results of the two methods to determine if ground and aerial counts differed between age groups or between different topographies. Aerial counts differed significantly from ground counts for both adult and immature eagles. Adults were underestimated by 31%, while immatures were underestimated by 48% during aerial surveys compared to ground surveys. Bias did not differ between river and reservoir habitats for adult eagles, but immatures were significantly easier to count from the air in river topographies than near reservoirs. These findings indicate that in western river drainages where steep, winding terrain occurs, results from aerial surveys of wintering bald eagle populations may be less accurate than previously reported, and that the amount of bias present may depend on the topography of the terrain surveyed.

DISAPPEARANCE OF ADULT FEMALES DURING THE FLEDGLING-DEPENDENCY PERIOD: IS IT MORTALITY OR DESERTION?

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In a 4-yr study of the reproductive strategies of Cooper's hawks (*Accipiter cooperii*) nesting in northcentral New Mexico, >50% of the females deserted during the fledgling-dependency period and did not reneest. In this study the males continued to rear the fledglings until dependence. Although this is only the second published record of mate desertion in raptors (ambisexual desertion in the polygamous snail kite [*Rostrhamus sociabilis*]), I suggest that it is a common reproductive strategy used by females when the risks to her current offspring are low (e.g., males provide ample food and predation risks are low) and future survival is enhanced (e.g., pre-migratory fattening). I surmise that the low reporting incidence of this behavior is a result of assuming female disappearances during the nesting season are mortalities. To evaluate this hypothesis, I reviewed the literature to determine the extent to which nesting female raptors disappear prior to offspring inde-

pendence and summarize the explanations presented for their disappearance.

EFFECTS OF TRIANGULATION ERROR ON HOME RANGE ESTIMATES OF PRAIRIE FALCONS (*FALCO MEXICANUS*)

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One problem with radio tracking is to decide how precise a location estimate must be. What is acceptable precision an error ellipse of 10 ha, 100 ha, 1000 ha, or even larger? Concurrent with this problem is the one of accuracy: do precise estimates reflect the transmitter's true location? We radio-tracked over 90 prairie falcons (*Falco mexicanus*) in the Snake River Birds of Prey Area during the nesting seasons of 1991–93. During that time, we also took fixes on beacon transmitters placed at known locations to estimate the accuracy of our triangulations. We examined beacon data to see if smaller polygons are also more accurate, using the center of the polygon as a point fix. Then we compared nesting season home ranges resulting from varying acceptable hectare sizes of 100–5000 ha. Polygon sizes up to 5000 ha may produce results comparable to those resulting from smaller hectare sizes. Using less precise fixes results in a larger sample size, and may be acceptable for point analyses. Larger error ellipses also increase coverage and ensure that the ellipse contains the transmitter location. Smaller error ellipses, while more precise, reduce sample size and may produce inaccurate results because they miss the transmitter's true location. If smaller polygons are accurate as well as precise, though, they represent a better estimate than do larger polygons.

COMPETITION-MEDIATED HABITAT USE OF RESIDENT AND MIGRANT VULTURES IN SOUTH AMERICA

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I studied spatial and temporal differences in the foraging densities of migrant (*Cathartes aura meridionalis*) and resident turkey vultures (*C. a. ruficollis*) in the Venezuelan Llanos in relation to hypotheses concerning habitat use in migrant and resident birds. In the wet season (May–October), residents foraged in all habitats, although most were counted over gallery forest. During the dry season (November–April), the larger North American migratory race coexisted with residents. Migrants foraged primarily over open savanna and relatively few birds foraged over forest. When sympatric with these migrants, residents foraged almost exclusively over gallery forest, and avoided open habitats. Three pieces of evidence suggested that this might be due to interference competition. Observations at carcasses in gallery forest demonstrated that residents discovered carcasses first more often than migrants, despite there being equal densities of each race in this habitat.